WORLD RESOURCES INSTITUTE | PEW CENTER on Global CLIMATE CHANGE | NEW AMERICA FOUNDATION

Welcome to

Webinar #7: Distributing Allowances

Moderator: **John Larsen**, World Resources Institute

Speakers: **Jill Duggan**, DEFRA, United Kingdom

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Christopher Nelson, DEP, Connecticut

Tuesday, January 29, 2008

11:30 am - 1:00 pm PST

12:30 pm - 2:00 pm MST

1:30 pm - 3:00 pm CST

2:30 pm - 4:00 pm EST

EU ETS: Allocation Methodologies

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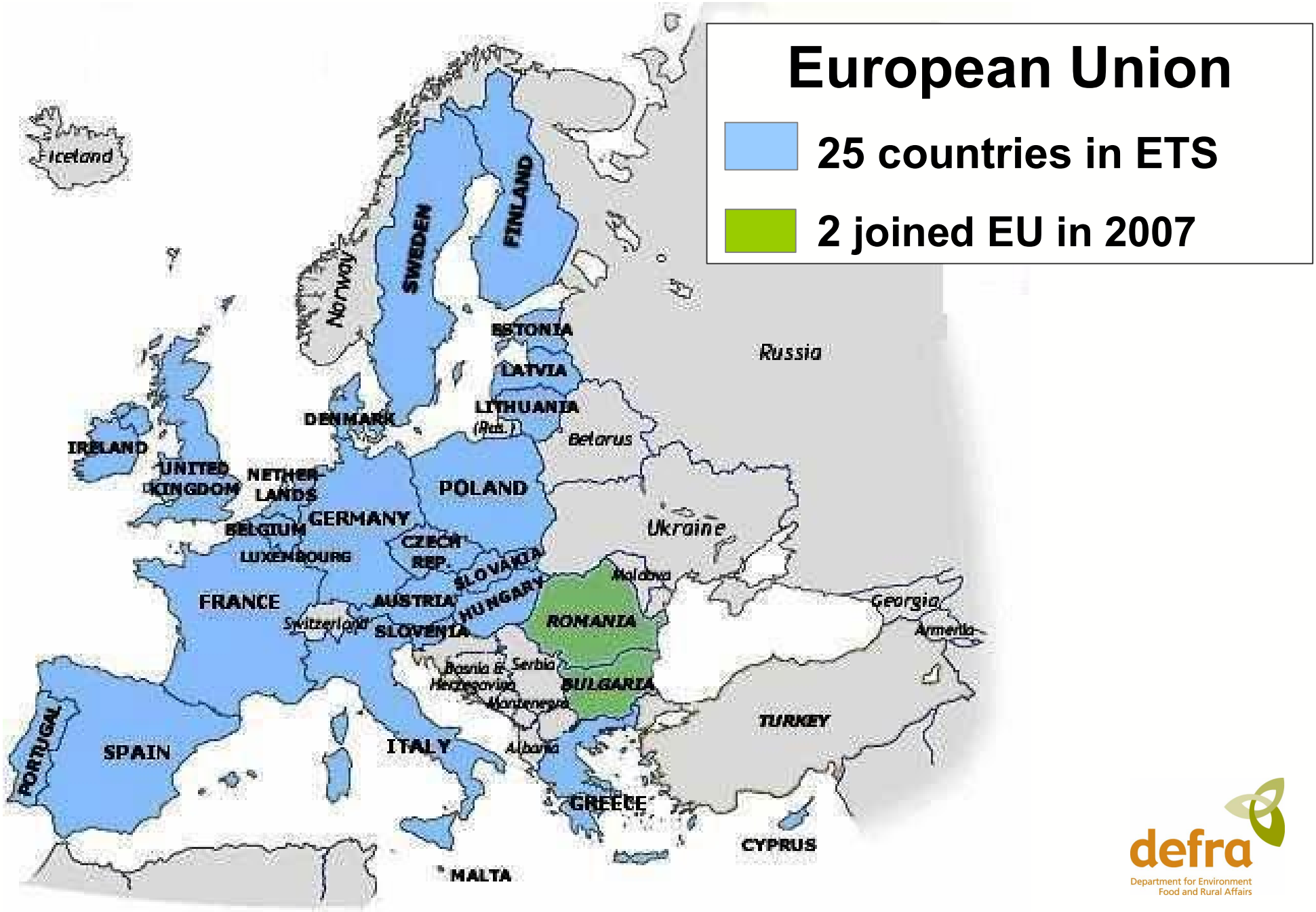
European Union
25 countries in ETS
2 joined EU in 2007
Iceland
Norway
SWEDEN
FINLAND
ESTONIA
LATVIA
LITHUANIA
Russia
DENMARK
Belarus
IRELAND
UNITED KINGDOM
NETHER-LANDS
POLAND
GERMANY
BELGIUM
LUXEMBOURG
CZECH REP.
Ukraine
SLOVAKIA
HUNGARY
Moldova
FRANCE
AUSTRIA
Switzerland
SLOVENIA
ROMANIA
Georgia
Armenia
Bosnia & Herzegovina
Serbia
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Key features of EU ETS

- "Cap and trade" scheme covering CO_2 emissions from combustion processes (approx 46% of EU CO_2 emissions)
- Phase 1 EU ETS - 2005-2007 - 'learning phase'
- Phase 2 EU ETS - 2008-2012 - 'Kyoto Commitment Period'
- 1 European Union Allowance (EUA) = 1 metric tonne of CO_2
- Allowances freely tradable throughout 27 EU Member States
- Most allowances allocated free - range of methods, including historical emissions, projected emissions, sector benchmarks etc
- Limited use of Kyoto project credits

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Process for National Allocation Plans – Phase I

- EU Member States follow Directive in producing National Allocation Plans
- Requires stakeholder consultation
- Within rules prepare own plans for cap and how to allocate to covered sectors
- Present plan to Other Member States
- Submit plan to European Commission
- Commission assesses plan against Directive – in Phase I cut allocations by 220 million tonnes per annum against proposals
- Final allocation agreed

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What happened in Phase I

- Different interpretation of ‘scope’ – broad and medium definitions accepted
- Different interpretation of Directive
- Lack of transparency – particularly on business as usual assumptions
- Poor baseline date
- Hurried implementation –plans still being approved into 2006
- Result - OVERALLOCATION

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Process for National Allocation Plans – Phase II

- Basic as for Phase I but:
- Agreement on ‘scope’ definitions – including significant additional sources
- Agreement on ‘small installations’ aggregation rules
- Template for submission of NAPs
- More harmonisation on rules
- Good verified data from 2005 verified emissions
- Greater transparency, more experience – Commission still took around 200 million tonnes a year out of the scheme
- Stable carbon price at around €20

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Cap setting – Phase I - UK

- Phase I – 8% below projected BAU for 2005-2007
  - 245 million per annum
- New Entrant Reserve 6.3% - surplus sold on market
- No further sale
- Intended unlimited use of credits from CDM but in practice not available and not needed

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UK approach to Phase I 2005 - 2007

- Baseline – average of 1998-2003 inc – dropping lowest year
- Top down - bottom up approach –
- Total cap based on projections of BAU and consideration of domestic targets
- Cap split between sectors on basis of projected BAU for industrial and residue for LEPs
- Installations allocation based on historical emissions as proportion of sector total
- Less than one year's data – use New Entrant Benchmark

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UK Cap setting Phase II 2008 - 2012

- 13% below verified 2005 emissions – 246.2 million tonnes per annum
- Expansion to include 9.6 million tonnes of additional emissions
- New Entrant reserve 6.6% 81 million allowances for period
- Auctioning 7% plus surplus from New Entrants and closures – at least 17.23 million per annum
- Limited of 8% of allocation on use of credits from CDM – 2/3 of effort

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Allocations for Phase II

- Benchmarks for Large Electricity Producers
- Grandfathering to others as per Phase I
- Baseline for grandfathering ave 2000-2003/4 dropping the lowest year –
    - pre 2000 data not so good
    - Allocating for 2008-2012 period
    - 2004 for installations that no 2000 data

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LEP Existing Installation Benchmarks

- Five Benchmarks
  - Gas fired generators
  - Coal fired generators (opted into LCPD)
  - Coal fired generators (opted out of LCPD)
  - Non good quality Combined Heat and Power
  - Other

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New Entrants

- For both Phase I and Phase taken from sectoral totals
- Discussion in government and Europe on whether to have new entrant reserve
- Decision should be linked to closure rule

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Phase I New Entrants

- Allocation 100% of benchmark – best possible technology – eg for power sector CCGT
- Set aside for CHP – so we didn't run out
- New Entrants – not increased production but increased capacity

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Phase II New Entrants

- Best possible technology benchmarks – more standardised across sectors than Phase I
- Allocations for LEP new entrants – 65% of CCGT benchmark
- CHP new entrants get 100% of benchmark
- Boilers and generators 90% of benchmark
- Others 95% of benchmark
- CHP ring fenced set aside

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Review of Directive – Commission Proposal

- 100 Auctioning for Large Electricity Producers and CCS – some free allocation for heat from CHP phased out by 2020
- Presumption of phase in of auctioning for other sectors – with intention of full auctioning by 2020 except where carbon leakage issues
- Where free allocation remains will be on basis of benchmarks wherever possible

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Auctioning Greenhouse Gas Allowances

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29 January 2008

Content

- Background
- Developing an Auction Procedure
- Key Decisions
- Summary of Procedure
- Lessons learned

Background

- Directive 2003/87/EC requires that MS allocate 95% of allowances free of charge for the 2005-2007 and 90% free of charge for 2008-2012 trading period.
- Ireland's National Allocation Plans contain provisions to auction:
  - 502,201 allowances (0.75%) for the pilot phase
  - 557,035 allowances (0.5%) in phase 2.
- In NAP1, Government also Directed that unused allowances arising as a result of closures would also be auctioned with the proceeds going to the exchequer. *NAP2 requires that such allowances are recycled to the set-asides and ultimately retired.*
- A number of other MS NAPs also made specific provision for auction or sale of allowances in the first trading period (Denmark, Hungary and Lithuania) while others may auction left over amounts in set-asides or arising from closures etc*. (Most are opting to retire these allowances due to the price collapse in the pilot phase).*

Developing an Auction Procedure

- Useful documents were
  - UK Consultation paper on “Proposed auction or sale methods for use in the EU Emissions Trading Scheme” (April 2005)
  - Commission “Non-paper on the use of auctioning for allocating Emissions Trading Allowances in the second trading period 2008-2012 and further on” (September 2005)
- Consultation with Ireland’s “National Treasury Management Agency”
- Legal advice
- Internal EPA discussions

Objectives

- Fund the Administration of the EU ETS scheme
- Minimise legal resistance
- Minimise the costs associated with the Auction (both the costs incurred by participants and those incurred by the EPA)
- Minimise the threat of strategic behaviour and collusion
- Maximise the prospect of participation in the auction
- Create a format suitable for repeat use

Key Decisions – Number of Allowances

- In order to reduce the risk of auctioning during a “low” in market prices it was decided to spread the risk by running at least two initial auctions of approx. 250,000 allowances each.
- The first such auction held in February 2006.
- A second auction held in November 2006.
- A final Auction scheduled for March 2008 (allowances due to closure and remainder in set-aside).

Key Decisions - Auction Format

Of the differing approaches to auction the two types considered most relevant for EU ETS allowances were:

- Sealed-Bid - single round
  - Sealed Bid – Advantages
    - Transparent
    - Straightforward
- Ascending Bid (Ascending Clock) – multiple round
  - Ascending Bid – Advantages
    - Reliable process of price discovery (especially in the absence of secondary market)
    - Generally result in higher revenues

- Sealed Bid chosen:
  - Existence of secondary market
  - Complexity associated with Ascending Auctions

Key Decisions - Pricing Method

- There are two pricing methods commonly associated with sealed-bid auctions:
  - Pay-Your-Bid Pricing – Each successful bidder pays the unit price as bid
  - Uniform-Price Auction – Each successful bidder pays the clearing price for the auction. All successful bidders pay the same price.
- Uniform pricing - most common approach used for auctions with homogenous divisible goods such as EUAs.
- From an equity perspective uniform pricing has the added benefit that everyone pays the same unit price for an allowance.
- Pay-your-bid pricing may not actually result in higher revenues as bids tend to be lower. Pay-your-bid pricing may expose small bidders to risks, as it tends to reinforce market power.

Key Decisions - Reserve Price

- Setting a minimum price or reserve reduces the risk for the auctioneer of selling allowances substantially below the market price.
- Considering the large amount of buyers in the EU ETS market, a minimum price may not generally be considered necessary.
- However if we allow for the fact that the we were running what was to be the first auction in the EU ETS scheme, there was a risk that insufficient public information or practicable knowledge of the system might have led to a lack of demand and in turn a low auction clearing price.
- In order to diffuse the risks it was decided that a “non-disclosed” reserve price be set for the auction.

Key Decisions - Lot Size

- If the auction methodology did not set a specific lot size the implementation and administration of the auction would become unmanageable.
- On the other hand, the lots must be sufficiently sized to accommodate smaller bidders.
  - especially relevant considering that small bidders have expressed concern regarding currently available market lot sizes of 5,000 – 10,000 allowances.
- It was decided that the lot size be set at:
  - Auction 1: 500 allowances
  - Auction 2: 1000 allowances

Key Decisions - Eligibility

- Valid account within the EU ETS system of registries.
  - Opening the auction to the broadest market seemed desirable to ensure sufficient demand to fund the administrative costs of the scheme.
  - Restricted participation rules increase the threat of strategic behavior and/or collusion whereby a few large buyers can exert market power.
- Country specific auction rejected due to the threat of:
  - insufficient demand,
  - strategic behaviour
- Restricting participation to Operators (bidders with operator holding accounts) in the EU ETS scheme rejected.
  - This option would eliminate prospective bids from brokerage houses, NGOs and individuals and thereby constrain demand.

Key Decisions - Validation

- While opening the auction to the broadest possible market maximises potential demand it also exposes the auction to the risk of speculative bidding and creates difficulties in bid validation.
- To reduce these risks, it was decided that potential bidders be subject to a pre-qualification process.
- Along with any relevant verification information it was also decided that a deposit of be collected in the pre-qualification stage to dissuade bogus bidding.
- The deposit was deducted from the amount owed by auction winners and refunded to auction losers.
- Any winners not honouring their bids would forfeit their deposits.

Key Decisions – Pre-Qualification

- Pre-qualification codes (PQ-Code) could be obtained by request.
- PQ-Codes could be requested from the time the auction was announced until two days before the bidding commenced.
- Requests for PQ-Codes had to include a valid registry account number.
- Only 1 PQ-Code was issued per Registry Account number.
- PQ-Codes were only emailed to PAR (Primary Authorised Representative) and/or SAR (Secondary Authorised Representative) addresses as given, when checked by EPA, on the *Community Transaction Log*.

Details of first 2 Auctions

	First Auction	Second Auction
Total for Auction:	250,000 allowances	963,000 allowances*
Lot Size:	500 allowances	1,000 allowances*
Deposit:	€3,000	€15,000 *
Auction Design	Sealed Bid.	Sealed Bid.
Prospective Participants:	Registry account owners listed on the *Community Transaction Log.*	Registry account owners listed on the *Community Transaction Log.*
Auction Type:	Uniform Price.	Uniform Price.
Reserve Price:	Undisclosed.	Undisclosed.
Settlement Time:	5 Days.	2 Days *
Pre-Qualification:	Manual by Email.	Online using Website. *
Bid Placed:	Sealed Envelope.	Online using Website. *
Number of Bids:	One Schedule of Demand including up to five mutually exclusive bids.	One Schedule of Demand including up to five mutually exclusive bids.

How well did they work?

- Over 100 valid bids received.
- <10 successful bidders in each
- Uniform Settlement Price in line with Market Price
  - First Auction: €26.30
  - Second Auction: €6.87
- Undisclosed Reserve not reached
- All winners settled within the alloted timeframe
- All allowances successfully transferred
- Very low overhead cost incurred

Lessons learned

- Pre-qualification / Validation was straightforward
- Risk associated with lengthly settlement time (5 days)
  - Time-lines for electronic funds transfer are generally very fast
- Vulnerability of auction if market dipped during settlement period. The initial deposit of €3,000 was certainly insufficient and €15,000 probably still too low.
- Pre-Qualification / Advance notice leads to market hedging
  - Both auctions saw a minor decrease in market price prior to bidding and market recovery directly after.
- This risk has to be weighed against others:
  - Lack of demand
  - Scheduling conflicts with other MS auctions

Summary of Phase 1 Auctions

- Ireland held the first auction for EU ETS allowances – February 2006
- Ireland held the first electronic auction for EU ETS allowances – November 2006
- Ireland is likely to hold the last phase one auction in March 2008.

Environmental Protection Agency

An Ghníomhaireacht um Chaomhnú Comhshaoil

Distributing Allowances under RGGI

Chris Nelson
CT DEP

WRI/Pew/NAF Webinar
January 29, 2008

Allowance Distribution under Acid Rain Program

- Under federal program, ARP units receive SO2 allowances for decades out based on historic emissions (tons)
- New units must buy what they need on secondary market or at limited auction
- No state role in distribution of allowances.

Allowance Distribution under NOx Budget Program

- States get budget of allowances, allocate to their units based on state-specific methodology
- In CT, distribution has evolved from primarily heat input-based (MMBtu) in 1999 to non-tiered output-based (MWh) by 2012.
  - NOx allocations in CT for 2009-2011 are primarily output-based, but electricity generating units are split into "old" and "new" categories

RGGI Basics

- A cap-and-trade program for CO2
  - first of its kind in the US
- Applies to all fossil fuel-fired electricity generating units (EGUs) with nameplate capacity of 25 MW or greater
- Program commences Jan 1, 2009
- Three-year compliance period
- GHG offsets can be used to cover a portion (3.3%) of a RGGI unit's compliance obligation.

RGGI Participants

- RGGI Memorandum of Understanding signed on Dec 20, 2005 by 7 of 9 states active in forming RGGI framework

  (CT, DE, ME, NH, NJ, NY, VT)
  - MA & RI rejoined RGGI in Jan 2007
  - MD joined RGGI in April 2007
- Currently 10 RGGI states

Distribution of RGGI CO2 Allowances

Two levels of distribution:

- Proration of regional cap to states / establishment of state budgets
- Distribution of each states' CO2 allowances

Regional Auction

- RGGI MOU called for a minimum 25% set aside to allocate for "consumer benefit or strategic energy purposes"
- Auction became the vehicle to create the consumer benefit (i.e., auction revenues to be used for consumer benefit initiatives)
- Many states moved toward 100% auction

Consumer Benefit Allocation

- From the RGGI MOU - Consumer benefit or strategic energy purposes include the use of allowances to:
  - promote energy efficiency
  - to directly mitigate electricity ratepayer impacts
  - to promote renewable or non-carbon-emitting energy technologies
  - to stimulate or reward investment in the development of innovative carbon emissions abatement technologies with significant carbon reduction potential
  - to fund administration of RGGI Program

CT Allowance Distribution

- Before auction concept took off, CT was considering an output-based methodology similar to NOx program
- CT now proposing to auction 91% of its allowances
  - 1% voluntary clean energy retirement set-aside
  - 5% CHP set-aside (RGGI units that also create useful steam would get some free allowances)
  - 3% Customer-side Distributed Resources set-aside (specific DG units would get some free allowances)

Proposed CT RGGI Auction/Revenue Flow

Unused Allowances (?%) - unsubscribed allowances would be sold in a subsequent auction

Set-asides:

1% - voluntary clean energy purchase

3% - Customer-side Distributed Resources

5% - CHP (useful steam)

Allowances (9%)

DEP

7.5% of Auction Revenue retained for RGGI implementation

Allowances (91%)

Auction Platform (unsold allowances held by state for future auction)

Auction Revenue

CO2 Allowance Purchasers

92.5% of Auction Revenue for "Consumer Benefit"

Class I Renewable Energy Projects (CCEF)

(25%)

Energy Efficiency

(75%)

CL&P **(80%)**

UI **(20%)**

Distribution nuances in other RGGI states

- Allowances sold at set price to certain types of units (e.g., units with long-term contracts)
- Some allowances sold at capped price to in-state units if certain price triggers reached
- Other types of set-aside accounts

Auction Design Recommendations

- Auction Format
  - Uniform price, single round, sealed bid
  - Joint & uniform auction for all states
- Timing & Volume
  - Quarterly – at each auction, current year and one future year vintage would be offered for sale
  - Lot size of 1000

Auction Design Recommendations

- Reserve Price
  - Establish a price below which no allowances would be sold
- Unsold Allowances
  - Offer allowances for sale at next auction (details still pending)
- Participation
  - Open to all financially qualified parties
  - Limit to bidders' volume

More Auction Details

- Oversight
  - Require disclosure of party benefitting from allowance purchase, but do not make this info public
  - Develop market monitoring mechanisms
- RGGI Inc issued an RFP in Nov '07 for auction design and oversight services
- RFP responses have been reviewed
  - Award / execute contract In Feb?
- Target date is mid-2008 for first auction